

Notice of Allowability**Application No.**

10/535,248

Applicant(s)

ITO ET AL.

Examiner

SOPHIE HON

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/04/08.
2. ☒ The allowed claim(s) is/are 1,4-20.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 3/25/08, 5/21/08.
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 8/14/08.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other ____.

/KEITH D. HENDRICKS/
Supervisory Patent Examiner, Art Unit 1794

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Roger Lee on 08/14/08.

The application has been amended as follows:

2. Claims 2-3, 21-22 are cancelled.
3. The status identifiers for claims 1, 4-5 have been changed from "withdrawn" to "withdrawn - currently amended".
4. **Claim 1** is rewritten as:

- - A method for producing an optical compensating sheet, comprising a step of simultaneously coating at least two coating solutions on a transparent support, wherein ~~at least one of the coating solutions~~ a first coating solution simultaneously coated in said step contains a liquid crystalline compound, ~~and another coating solution of the coating solutions contains a surface active agent~~ and a second coating solution simultaneously coated in said step comprises a surface active agent comprising a fluoroaliphatic group-

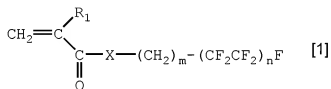
containing copolymer that comprises a repeating unit derived from a poly(oxyalkylene)acrylate and/or a poly(oxyalkylene)methacrylate, wherein the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound, and wherein the optical compensating sheet comprises: an optically anisotropic layer formed from a first coating solution which comprises a liquid crystalline compound, and a surfactant layer constituting an upper layer of the optically anisotropic layer, formed from a second coating solution which comprises a surface active agent comprising a fluoroaliphatic group-containing copolymer that comprises a repeating unit derived from a poly(oxyalkylene)acrylate and/or a poly(oxyalkylene)methacrylate. - -

5. **Claim 4** is rewritten as:

- - The method as claimed in claim 3, wherein the surface active agent is A method comprising a step of simultaneously coating at least two coating solutions on the transparent support, the at least two coating solutions comprising a first coating solution which comprises a liquid crystalline compound, and a second coating solution which comprises a fluoroaliphatic group-containing copolymer, wherein the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound, the fluoroaliphatic group-containing copolymer containing a repeating unit derived from the following monomer (i) and a repeating unit derived from the following monomer (ii):

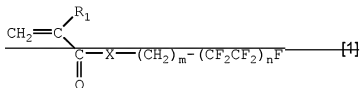
Art Unit: 1794

(i) a fluoroaliphatic group-containing monomer represented by the following formula [1],



wherein R_1 represents a hydrogen atom or a methyl group, X represents an oxygen atom, a sulfur atom or $-\text{N}(\text{R}_2)-$, m represents an integer of 1 to 6, n represents an integer of 2 to 4, and R_2 represents a hydrogen atom or an alkyl group having from 1 to 4 carbon atoms, and

(ii) a poly(oxyalkylene) acrylate and/or a poly(oxyalkylene) methacrylate:

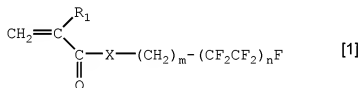


wherein R_1 represents a hydrogen atom or a methyl group, X represents an oxygen atom, a sulfur atom or $-\text{N}(\text{R}_2)-$, m represents an integer of 1 to 6, n represents an integer of 2 to 4, and R_2 represents a hydrogen atom or an alkyl group having from 1 to 4 carbon atoms. - -

6. **Claim 5** is rewritten as:

- ~~The method as claimed in claim 3, wherein the surface active agent is A~~
method comprising a step of simultaneously coating at least two coating solutions on the transparent support, the at least two coating solutions comprising a first coating solution which comprises a liquid crystalline compound, and a second coating solution which comprises a fluoroaliphatic group-containing copolymer, wherein the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound, the fluoroaliphatic group-containing copolymer containing a repeating unit derived from the following monomer (i), a repeating unit derived from the following monomer (ii) and a repeating unit derived from the following monomer (iii):

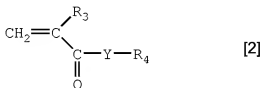
(i) a fluoroaliphatic group-containing monomer represented by the following formula [1]:



wherein R₁ represents a hydrogen atom or a methyl group, X represents an oxygen atom, a sulfur atom or -N(R₂)-, m represents an integer of 1 to 6, n represents an integer of 2 to 4, and R₂ represents a hydrogen atom or an alkyl group having from 1 to 4 carbon atoms,

(ii) a poly(oxyalkylene) acrylate and/or a poly(oxyalkylene) methacrylate, and

(iii) a monomer copolymerizable with (i) and (ii) and represented by the following formula [2]:



wherein R₃ represents a hydrogen atom or a methyl group, Y represents a divalent linking group, and R₄ represents a linear, branched or cyclic alkyl group having from 4 to 20 carbon atoms, which may have a substituent. - -

7. **Claim 6** is rewritten as:

- - An optical compensating sheet produced by a method comprising a step of simultaneously coating at least two coating solutions on a transparent support, wherein the optical compensating sheet comprises: an optically anisotropic layer formed from a first coating solution which comprises a liquid crystalline compound, and a ~~second coating solution which comprises a surface active agent,~~

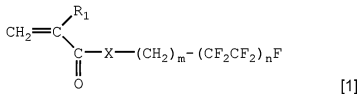
~~wherein the second coating solution forms~~ surfactant layer constituting an upper layer of the optically anisotropic layer, formed from a second coating solution which comprises a surface active agent comprising a fluoroaliphatic group-containing copolymer that comprises a repeating unit derived from a poly(oxyalkylene)acrylate and/or a poly(oxyalkylene)methacrylate, wherein the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound. - -

8. **Claim 7** is rewritten as:

- - An optical film comprising a support having thereon an optically anisotropic layer comprising a liquid crystalline compound and a surfactant layer that constitutes an upper layer of the optically anisotropic layer, the surfactant layer comprising a fluoroaliphatic group-containing copolymer, wherein said fluoroaliphatic group-containing copolymer comprises a repeating unit derived from the following monomer (i) and a repeating unit derived from the following monomer (ii):

(i) a fluoroaliphatic group-containing monomer represented by the following formula [1], and

(ii) a poly(oxyalkylene) acrylate and/or a poly(oxyalkylene) methacrylate,



wherein R₁ represents a hydrogen atom or a methyl group, X represents an oxygen atom, a sulfur atom or -N(R₂)-, m represents an integer of 1 to 6, n represents an integer of 2 to 4, and R₂ represents a hydrogen atom or an alkyl group having from 1 to 4 carbon atoms, and ~~wherein the surfactant layer constitutes an upper layer of the optically anisotropic layer~~

wherein the optical film is produced by a method comprising a step of simultaneously coating at least two coating solutions on the transparent support, the at least two coating solutions comprising a first coating solution which comprises the liquid

crystalline compound, and a second coating solution which comprises the fluoroaliphatic group-containing copolymer, wherein the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound. - -

Rejoinder of Process Claims

9. Claims 6-20 are now directed to an allowable product. Pursuant to the procedures set forth in MPEP § 821.04(B), claims 1-5, directed to the process of making or using an allowable product, previously withdrawn from consideration as a result of a restriction requirement, are hereby rejoined and fully examined for patentability under 37 CFR 1.104.

Because all claims previously withdrawn from consideration under 37 CFR 1.142 have been rejoined, **the restriction requirement as set forth in the Office action mailed on 09/04/07 is hereby withdrawn.** In view of the withdrawal of the restriction requirement as to the rejoined inventions, applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Once the restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Reasons for Allowance

10. The following is an examiner's statement of reasons for allowance. The closest cited prior art of record, JP 2001-330725 or JP 07-136578, fail to fairly teach or suggest even in view of each other, US 2002/0168511, US 2002/0048639 and EP 1079244, a method of producing an optical film, comprising a step of simultaneously coating at least two coating solutions on a transparent support, wherein the optical compensating sheet comprises: an optically anisotropic layer formed from a first coating solution which comprises a liquid crystalline compound, and a surfactant layer constituting an upper layer of the optically anisotropic layer, formed from a second coating solution which comprises a surface active agent comprising a fluoroaliphatic group-containing copolymer that comprises a repeating unit derived from a poly(oxyalkylene)acrylate and/or a poly(oxyalkylene)methacrylate, wherein the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound.

Regarding the method claims, none of the references teach the step of simultaneous coating of the two coating solutions where the viscosity of the second coating solution containing the fluoroaliphatic group-containing copolymer is lower than the viscosity of the first coating solution containing the liquid crystalline compound.

Regarding the product claims, Applicant's disclosure provides comparative data which demonstrate the unexpected results produced by the claimed method in terms of the consistently smaller standard deviation of the in-plane retardation, which is

representative of the uniformity of the optical properties of the optical film produced by the claimed method (specification, Table 1, pages 113-114).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks, can be reached on (571)272-1401. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Sophie Hon/

Sow-Fun Hon

/KEITH D. HENDRICKS/

Supervisory Patent Examiner, Art Unit 1794